



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/747,985	12/30/2003	David B. Olson	59460US002	6610

32692 7590 02/06/2006

3M INNOVATIVE PROPERTIES COMPANY
PO BOX 33427
ST. PAUL, MN 55133-3427

EXAMINER

BERNSHTEYN, MICHAEL

ART UNIT	PAPER NUMBER
----------	--------------

1713

DATE MAILED: 02/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/747,985

Applicant(s)

OLSON ET AL.

Examiner

Michael Bernshteyn

Art Unit

1713

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) 21-25 and 27-29 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-20 and 26 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☒ Claim(s) 1-29 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 12/30/03, 03/12/04, 01/11/05, 06/13/05, 11/21/05
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

1. Claims 21-25 and 27-29 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on December 30, 2005.
2. Applicant's election without traverse of species with photoinitiator in the reply filed on December 30, 2005 is acknowledged.
3. The claims 1-29 are pending.

Information Disclosure Statement

4. From MPEP 2004.13, "It is desirable to avoid the submission of long lists of documents if it can be avoided. Eliminate clearly irrelevant and marginally pertinent cumulative information. If a long list is submitted, highlight those documents, which have been specifically brought to applicant's attention and/or are known to be of most significance. See *Penn Yan Boats, Inc. v. Sea Lark Boats, Inc.*, 359 F. Supp. 948, 175 USPQ 260 (S.D. Fla. 1972), *aff'd*, 479 F.2d 1338, 178 USPQ 577 (5th Cir. 1973), *cert. denied*, 414 U.S. 874 (1974). But cf. *Molins PLC v. Textron Inc.*, 48 F.3d 1172, 33 USPQ2d 1823 (Fed. Cir. 1995)." Virtually most of the hundreds of references furnished by Applicant taught an invention bearing any resemblance at all to that which is claimed. Most references describe different aspects of the field of endeavor but do not concern used compositions for brightness enhancing film.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-20 and 26 are rejected under 35 U.S.C. 102(b) as anticipated by Olson et al. (U.S. Patent 6,261,700).

Olson discloses coatings, composite structures containing coatings, and compositions for preparing and methods of preparing coatings and composite structures, wherein the compositions comprise inorganic oxide particles and polymerizable brominated compounds, and coatings comprise inorganic oxide particles and a brominated polymer (abstract).

With regard to the limitations of instant claims 1, 7, 9, 11-14, 16, 17, 19, 20 and 26, Olson discloses the compositions, which contain ingredients including inorganic oxide particles and a curable binder precursor, wherein the binder precursor includes a polymerizable brominated compound. The polymerizable brominated compound can contain a brominated monomer having a relatively high index of refraction, e.g., at least about 1.5, and/or can contain at least one aromatic, brominated (meth)acrylate compound. The composition can be cured or polymerized to form a hardcoat composition including a brominated polymeric matrix having dispersed therein, or surrounding the inorganic oxide particles (col. 2, lines 29). Particularly preferred polymerizable brominated compounds comprise polymerizable aromatic, brominated

(meth)acrylate compounds having an aromatic portion, a brominated portion (which may or may not be the aromatic portion), and a (meth)acrylate moiety. An aromatic, brominated (meth)acrylate compound may be mono-functional or multi-functional with respect to the (meth)acrylate moiety (col.4, lines 15-20). An example of a preferred class of polymerizable aromatic, brominated (meth)acrylate compound is the class of aromatic, brominated (meth)acrylate monomers comprising a six-membered phenyl group preferably substituted by one or more bromine substituents, and most preferably substituted by an alkyl substituent. The aromatic portion of the monomer may be connected directly to the (meth)acrylate moiety, or the aromatic portion may be connected to the (meth)acrylate moiety through a divalent organic linking group (L) (col. 4, lines 53-63).

Olson discloses that the most preferable first monomer comprising a major portion of 2-propeonic acid, (1-methylethylidene)bis[(2,6,dibromo-4,1-phenylene)oxy(2-hydroxy-3,1-propanediyl)] ester as the reaction product of **tetrabromobisphenol A diglycidyl ether** and **(meth) acrylic acid** which is known under the trade designation '**RDX-51027**' and used in the table 1, examples 1 and 3 (col.26, lines 18-55). This component is readable as component a) in the instant claim 1. Other examples of polymerizable brominated compounds that can be useful in the binder precursor include but are not limited to tribromophenyl (meth)acrylate, pentabromophenyl (meth)acrylate, tribromophenylethyl (meth)acrylate, bromomethyl styrene, and brominated bisphenol A (meth)acrylate compounds (col. 8, lines 28-33).

Art Unit: 1713

Olson discloses that the binder precursor can optionally include one or more polymerizable non-brominated compound (e.g., a monomer, dimer, oligomer, pre-polymer, or polymer), which can react with other components of the binder precursor to provide a brominated polymeric matrix. Such non-brominated compounds can include low molecular weight reactive **diluents** which can modify flow properties of the composition, and **multi-functional crosslinking agents** to crosslink polymers upon reaction and provide a highly crosslinked matrix (col. 10, line 67 through col. 11, line 13). Examples of suitable monofunctional non-brominated polymerizable compounds include 2-hydroxyethyl (meth)acrylate, 2-methylbutyl (meth)acrylate, (meth)acrylic acid, itaconic acid, **2-phenoxyethyl (meth)acrylate**, etc. (col. 11, lines 35-45), thus naming the species of the instant claims, including those elected by Applicant. **2-phenoxy)ethyl (meth)acrylate** is readable as component c) in the instant claim 1.

A multifunctional non-brominated compound can be any multifunctional non-brominated compound that can react with the other components of the binder precursor to produce a polymer. Preferred multifunctional non-brominated compounds comprise ester (meth)acrylate compounds such as difunctional (meth)acrylate esters of a polyhydric alcohol, and combinations thereof. Of these, trifunctional and tetrafunctional esters of (meth)acrylate esters of polyhydric alcohol can be especially preferred. Examples of suitable multifunctional ester (meth)acrylates include poly(meth)acrylic acid esters of polyhydric alcohols including, for example, **tri(meth)acrylic acid esters of pentaerythritol**, etc. Particularly preferred multifunctional ester (meth)acrylic acids can comprise a mixture of di-, tri-, and tetra(meth)acrylate esters of **pentaerythritol** (col. 12,

line 39 through col. 13, line 13). **Pentaerythritol tri(meth)acrylate** is readable as component b) in the instant claim 1.

Olson discloses examples of photoinitiators that generate a free radical source when exposed to visible light radiation include, but are not limited to mixtures of camphorquinones and organic amines, and bisacyl phosphoric oxides. Examples of photoinitiators that generate a free radical source when exposed to ultraviolet light include, but are not limited to, organic peroxides, azo compounds, quinones, etc. (col. 17, lines 23-30). A **photoinitiator** is readable as component d) in the instant claim 1.

Thus, all the limitations of the instant claim 1 are expressly met by Olson.

With regard to the limitations of instant claims 2-4, Olson discloses that while amounts outside of the following ranges may be useful, preferred binder precursors can include from **about 20 to about 80 parts by weight (pbw)** polymerizable **brominated** compound, e.g., aromatic, brominated (meth)acrylate compound, which is within the claimed range (col. 13, lines 19-22).

With regard to the limitations of instant claims 5-6, Olson discloses that the binder precursor can also contain polymerizable **non-brominated** compound in useful amounts, e.g., from **about 20 to 80 pbw**, preferably about 50 to 70 pbw, based on 100 pbw binder precursor, which is within the claimed range (col. 13, lines 31-33).

With regard to the limitations of instant claims 8, 10, 15, and 18, Olson discloses that 2-(phenoxy)ethyl (meth)acrylate as monofunctional (meth) acrylate diluent is a liquid at ambient (room) temperature with low volatility and $T_g = 54^{\circ}\text{C}$ (col. 11, line 42).

Conclusion

Other references are considered pertinent to the Applicant disclosure but not cited in this office include U.S. Patent 5,073,462 and U. S. Patent Application Publication 2005/0151119 are shown on the Notice of References Cited Form (PTO-892).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Bernshteyn whose telephone number is 571-272-2411. The examiner can normally be reached on M-F 8-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu can be reached on 571-272-1114. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Michael Bernshteyn
Patent Examiner
Art Unit 1713

MB
02/02/2006


DAVID W. WU
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700